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"Solidarity in a competing world — fair use of resources"

Influence of Altitude and Management System on Coffee Quality in Mt. Elgon, Uganda

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Abstract

The intrinsic quality of a cup of coffee is largely determined by farm level factors. Besides the influence of cultivation and harvest management, also environmental parameters are important. Climate change in Uganda will result in different environmental conditions, which not only influence yield, but also coffee quality, and can negatively affect the income of farmers.

The present study aimed to identify drivers of coffee quality, in order to develop recommendations that help farmers to keep or even improve coffee quality under harsher environmental conditions. For our quality measurements three altitude levels (<1400 m, 1400–1700 m, >1700 m) and three types of management system ('coffee open sun', 'coffee banana', 'coffee tree') were differentiated in the research area of Mount Elgon in eastern Uganda. This area is one of the most important regions for Arabica coffee cultivation in the country. Through physical bean characteristics and cupping data of coffee samples, we determined relationships between altitude, management levels and coffee quality. There was a clear trend of a better quality with increasing altitude. On the other hand, the influence of management system on quality was not that strong. Interviews with farmers allowed characterising current post-harvest processing, and additionally some farmer-processed samples were analysed for quality parameters, to identify if there is a gap between current and optimal processing. Our results allow the development of recommendations towards an optimal post-harvest processing that secure coffee quality in the context of climate change. Two important aspects for a better coffee quality are floating before pulping and the improvement of drying conditions. Resulting recommendations should allow for more secured livelihoods of coffee farmers and to sustain the reputation of Uganda as an important exporter of high quality coffee.

Keywords: Coffee, management systems, quality, Uganda

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